

## Gigabit Squared (GB2) Seattle Demonstration Project Frequently Asked Questions

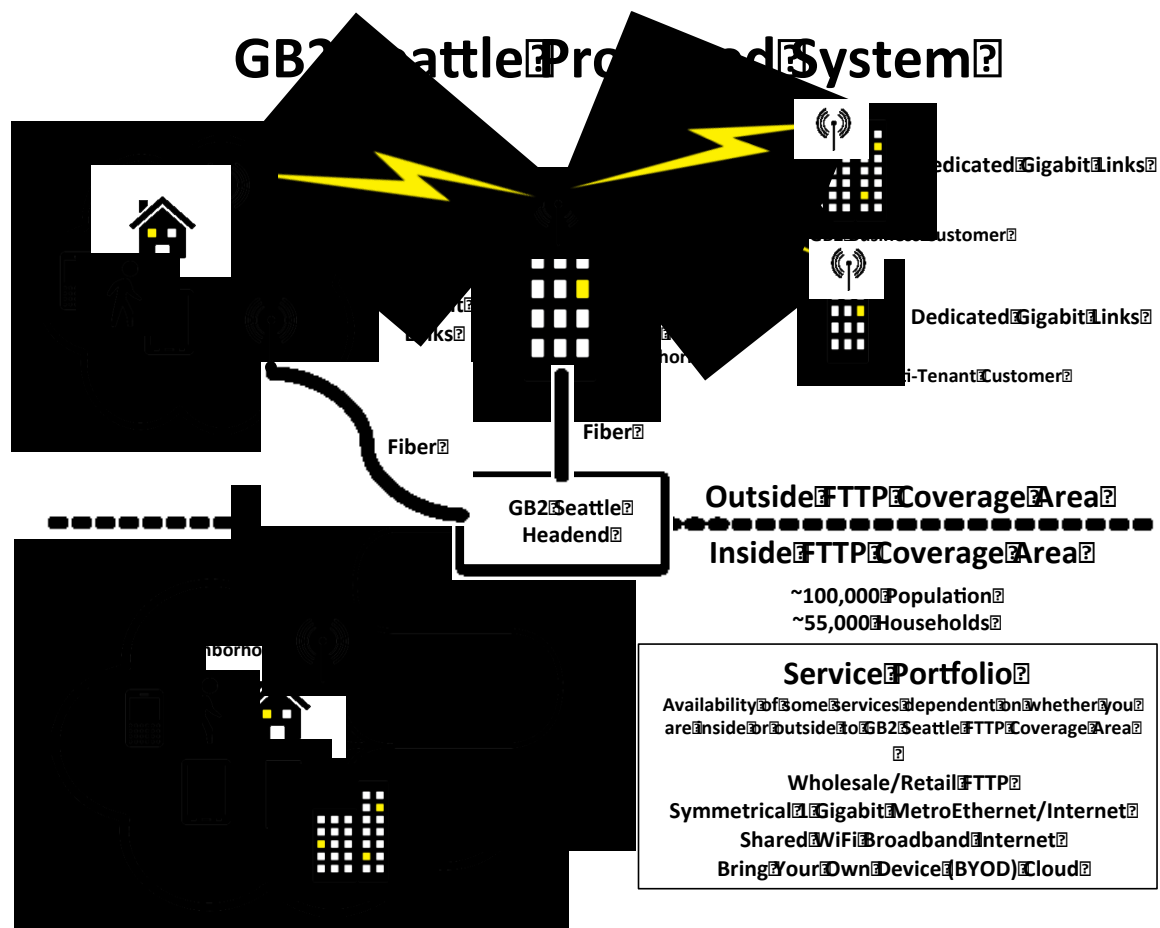
### What is the demonstration project?

GB2 Seattle will develop, build, and operate an ultra high-speed fiber-to-the-home/fiber-to-the-business (FTTH/B) network in Seattle to stimulate business and enhance quality of life. The Gigabit Seattle demonstration project is intended to spur advancements in health care, education, and public safety, as well as drive business growth.

GB2 Seattle will make FTTH/B services available to more than 100,000 City residents in select neighborhoods and provide next generation high-speed WiFi as a complement to FTTH/B services to support user mobility. In other words, provide the network's users with service throughout the City. See GB2 Seattle Proposed System Description.

A key objective of the project is to provide a platform for innovation that will drive the development of applications to address critical needs. In the same way that smartphones and tablets stimulate development of "apps," this demonstration project will drive development of health care and educational applications that leverage the capabilities of ultra-high-speed fiber networks. Additionally, we are creating a test-bed for creating services, products, and applications. Businesses looking to compete in today's digital economy will be attracted to the region because of its network while businesses that reside in the City today will find their opportunities multiply.

### What does GB2's Proposed System look like?



**When will FTTH/B services be available?**

Services will be available to 100,000 residents within 24 months (by year-end 2014). The network is expected to remain in place for at least 10 years.

**What are the Initial Serving Areas?**

Area 1: The University's West Campus District, Area 2: South Lake Union, Area 3: First Hill/Capitol Hill/Central Area, Area 4: The University's Metropolitan Tract, Area 5: The University's Family Housing at Sand Point, Area 6: Northgate, Area 7: Volunteer Park Area, Area 8: Beacon Hill and SODO Light Rail Station and Areas 9-12: Mount Baker; Columbia City, Othello, Rainier Beach.

**Where will services be offered?**

The demonstration project includes 12 neighborhoods. [See map for details](#). GB2 Seattle will leverage excess capacity on the City's fiber optic network and building rooftops, and could use available capacity to expand coverage beyond these. Specifics will be determined when detailed engineering work is completed in early 2013. See [GigabitSeattle.com](http://GigabitSeattle.com) for updates.

**What services will be offered?**

1) Internet access services with symmetrical connection speeds up to 1,000 (1 Gigabit/1 Gbps).

GB2 Seattle expect to offer the following service levels:

Downstream	Upstream
Up to 20 Mbps	Up to 20 Mbps
Up to 50 Mbps	Up to 50 Mbps
Up to 100 Mbps	Up to 100 Mbps
Up to 250 Mbps	Up to 250 Mbps
Up to 500 Mbps	Up to 500 Mbps
Up to 1,000 Mbps	Up to 1,000 Mbps

2) Metro Ethernet Forum (MEF) compliant enterprise networking services at speeds up to 1 Gbps (up to 100 Gbps on an individual case basis). Services offered will include:

- Ethernet Private Line (EPL) for high speed dedicated connectivity between core network sites and between data centers citywide;
- Ethernet Virtual Private Line (EVPL) for high-speed, multipoint connections between core network sites and remote sites, trunk connections between voice over IP (VoIP) servers, etc.; and
- Ethernet LAN (E-LAN) for switched, local area network-like connectivity between sites dispersed throughout the City.

3) Next generation high-speed WiFi service for mobile access to complement the FTTH/FTTB and enterprise networking services.

**How is this different from other Internet access services?**

These FTTH/B services will be 50-1000 times faster than typical cable modem or DSL Internet access services. Unlike most Internet access services, the FTTH/B services will be symmetrical (equal upstream and downstream data rates) to enable interactive services that require two-way sharing of video, audio,

images, and other large files in real time. Typically, a user finds that their provider delivers upload speeds at a fraction of their download speeds.

GB2 Seattle will implement an open architecture to encourage innovation and competition. This means that the network will be “vendor neutral” and ensure customers will not be locked into purchasing content from a specific provider as part of this service.

### **Is this WiFi?**

It is similar in concept, but it is much more. The network will include ultra high-speed fiber lines and next generation wireless services to provide ultra high-speed Internet service to targeted neighborhoods. It will include

- FTTH/B infrastructure;
- Dedicated, gigabit-speed radio connections to speed deployment to homes and businesses where fiber is not readily available; and
- High-speed WiFi with broad coverage across demonstration neighborhoods.

### **What is meant by dedicated gigabit-speed radio connections?**

GB2 Seattle will use dedicated, engineered radio connections to expedite deployment of services in to bridge the service gap in neighborhoods where fiber will not be readily available. The radio equipment provides connection speeds up to 1 Gbps and uses licensed radio spectrum. Using licensed spectrum safeguards the connection from interference and congestion that could interfere with and limit performance.

### **Will dedicated radio connections be secure?**

Yes. The equipment will use 256-bit encryption to keep the data transmitted over dedicated radio connections secure.

### **How will I connect to this service?**

- FTTH/B services will be delivered via a 1000BaseT (RJ45) Ethernet outlet at the home or business. The FTTH/B service will include fiber optic cable to the home or business, a network interface device installed at the home or business, and Cat-6 Ethernet wiring from the network interface device to one RJ45 outlet within the customer’s premises.
- Service deployed using dedicated radio connections will also be delivered to the customer via a 1000BaseT (RJ45) Ethernet outlet.
- WiFi services will initially comply with the IEEE 802.11n standard, and may be upgraded as the 802.11 standard evolves.

### **How will the fiber network be built?**

GB2 Seattle intends to lease excess capacity on the City’s fiber optic network, as authorized by Ordinance 123931 as well as install new fiber optic cable in demonstration project neighborhoods. GB2 Seattle will pay the City’s published rates for use of infrastructure owned by Seattle City Light and Seattle Public Utilities, such as, but not limited to, underground conduit and pole attachments.

**Who will own and operate the network?**

GB2 Seattle will own and operate the FTTH/B and broadband wireless services. The City and The University of Washington will not be asked to invest in the project, therefore will not have any ownership share in the resulting network.

**What is the City's role in this project?**

The City, through the Department of Information Technology, will:

- Coordinate the activities of all City department related to the project;
- Coordinate the efforts of other public agencies for the purpose of deploying FTTH/B services in Seattle; and
- Facilitate lease agreements for City-owned excess fiber.

**What is the University of Washington's role?**

UW will collaborate with GB2 Seattle to pilot health care and education applications.